

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property  
Organization  
International Bureau



(43) International Publication Date  
31 March 2005 (31.03.2005)

PCT

(10) International Publication Number  
**WO 2005/028062 A2**

- (51) International Patent Classification<sup>7</sup>: **B01D**
- (21) International Application Number:  
PCT/US2004/031487
- (22) International Filing Date:  
23 September 2004 (23.09.2004)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:  
60/505,142 23 September 2003 (23.09.2003) US
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- (81) Designated States (*unless otherwise indicated, for every kind of national protection available*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (*unless otherwise indicated, for every kind of regional protection available*): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).
- Published:**  
— *without international search report and to be republished upon receipt of that report*
- For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*

(54) Title: METHOD AND APPARATUS FOR THE SEPARATION OF FLUORESCENCE AND ELASTIC SCATTERING PRODUCED BY BROADBAND ILLUMINATION USING POLARIZATION DISCRIMINATION TECHNIQUES

(57) Abstract: An apparatus for separating fluorescent light from light elastically scattered/reflected from a material illuminated with a broadband illumination source includes a polarization discriminator, which separates the substantially polarized elastically scattered/reflected light from the unpolarized fluorescent light, and a spectrometer to analyze the full and separated reflectance spectra. A linear polarizer may be provided to polarize the illumination source. A method for separating fluorescence light induced in a material by broadband light from an elastic scattering/reflection component includes providing polarization discrimination to separate the components, the fluorescence light being substantially unpolarized, and spectrally analyzing the reflectance components. The method may include linearly polarizing the light source. A fluorescence spectra may be extracted from a minimum reflectance spectra or from a residual polarization reflectance spectra.

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